

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
7 July 2005 (07.07.2005)

PCT

(10) International Publication Number
WO 2005/062489 A1

(51) International Patent Classification⁷: **H04B 7/005**

(21) International Application Number:
PCT/SE2003/002053

(22) International Filing Date:
22 December 2003 (22.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): **TELEFONAKTIEBOLAGET LM ERICSSON (publ)** [SE/SE]; S-164 83 Stockholm (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CARLSSON, Roland** [SE/SE]; Skottvägen 3, S-433 50 Öjersjö (SE). **KARLSSON, Torbjörn** [SE/SE]; Svingelv. 4, S-437 42 Lindome (SE).

(74) Agent: **MOLKER, Anders**; c/o Ericsson AB, Patent Unit Radio Networks, S-431 84 Mölndal (SE).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

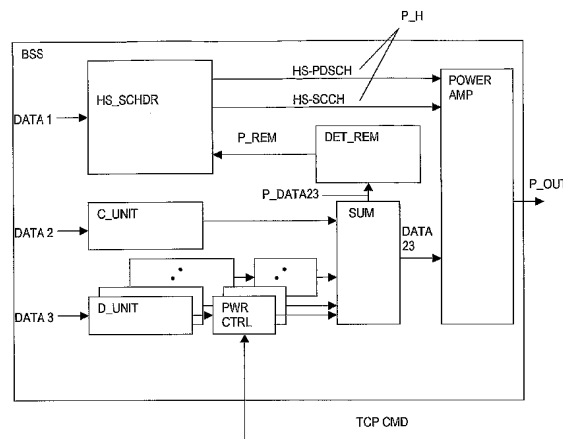
(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: POWER CONTROL FOR HIGH-SPEED PACKET DATA TRANSMISSION



(57) **Abstract:** A transmitting unit comprising a first unit (CM_SCHDR) receiving scheduled first data (DATA2, DATA3) for transmission on at least a first channel, a power control unit (PWR_CTRL) for the first channel responsive to a respective closed loop power regulation signal (TCP_CMD), under which at least the transmit power rate of change is limited to a predetermined value per time unit, a packet data scheduler (HS_SCHDR) scheduling second data packets (DATA1), such as HSPDA data, for transmission on at least a second channel at an actual power level ($P_H(t)$), and a power amplifier (POWER_AMP) amplifying and outputting the scheduled first and second data, whereby the outputted first and second channels are subject to interference from one another, is shown. A possible power ($P_POS(t)$) is determined at a given instance as the maximum value of either the actual power ($P_HS(t-1)$) at a previous instance or the possible power determined at a previous instance ($P_POS(t-1)$), decreasing the maximum value by a predetermined value (d). Moreover, a permitted power ($P_PERM(t)$) at a given instance as the maximum value of either the actual power of a previous instance ($P_HS(t-1)$) added with the predetermined value (d) or the determined possible power ($P_POS(t)$). Finally, the scheduling is performed within these limits.

WO 2005/062489 A1